INTERPRETING THE VALUE OF ECOSYSTEM SERVICES IN A GREAT LAKES ESTUARY FROM THE BEHAVIOR OF INDIVIDUALS AND COMMUNITIES

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Fundamentally, economists study human behavior. Financial and political investments are justified in terms of the real, perceived, or potential value of benefits. Unlike economic systems, investments in and benefits from ecosystems are difficult to monetize. We are applying alternate valuation methods to interpret how the behavior of individuals and communities (public, NGOs, and governments) guides their respective investments in ecosystem services in the St Louis River estuary of Lake Superior. In our preliminary research, we identify nominal investors and beneficiaries and describe the types and spatial extents of services in the 282 km² estuary. We then consider the behavior of individuals to invest (or disinvest) financially in homes relative to benefits from services in the estuary. Some benefits derive from publicly maintained services. We also consider the behavior of communities leading them to invest financially and/or politically in particular services of the estuary through public education, remediation, restoration, and conservation efforts, zoning, and land use planning. We use the difference between investment and expected benefits to estimate value. This abstract does not represent the policy of the US EPA.

Impact statement
The work reports preliminary research demonstrating valuation methods for ecosystem services in the Great Lakes. Results contribute to the scientific framework necessary to apply ecosystem services to environmental resource management. State, federal, and NGOs may be able to use our results and methods to justify environmental conservation and restoration decisions.

North American Benthological Society's Annual Meeting
Responding to the Global Water Crisis
Rhode Island Convention Center
Providence, Rhode Island, USA, May 22 – 26, 2011